

NOTES

MR. PREECE and Mr. Stroh, who have been working for the past twelve months upon the acoustic properties of the phonograph, have completed their labours as far as the vowel sounds are concerned, and their paper on the synthetic examination of these sounds will be read before the Royal Society probably on the 27th inst. Several new instruments of great novelty and marvellous ingenuity will be exhibited, including a new phonograph, an automatic phonograph, a compound curve-tracer, a new syren, and a new musical instrument.

WE record with deep regret the death, at Luxor, in Egypt, on the 1st inst., of Dr. C. E. Appleton, the founder and editor of *The Academy*. Dr. Appleton was under forty years of age, and had been in declining health for the past two years. His name will be familiar to many of our readers in connection with the Endowment of Research, on which subject he frequently wrote, and a volume of essays on which he edited a year or two ago. Dr. Appleton was himself mainly a student in metaphysics, but he clearly perceived the value of physical science, and the immense advantages likely to accrue to its progress, to our universities, and to the country, by the appropriation of part of the great wealth of the universities, and of the funds of the state, to the encouragement of original research. He laboured earnestly to advance these views, believing that it was the country's duty and interest to encourage the discovery of new truths. He will be greatly missed by his many friends.

WE have to record the death of Mr. Bennet Woodcroft, F.R.S., which happened on the 7th inst. at his residence in Brompton. Mr. Woodcroft will be best remembered in connection with the Patent Office, which he may be said to have originated, and the working of which he so ably and zealously superintended from the time of its establishment down to within the last two years. He was born at Bennet Grange, near Sheffield, in December, 1803, and was consequently in his seventy-seventh year when he died. Early in life he studied science under Dalton, of Manchester, and in course of time joined his father in his business, which was that of a Manchester manufacturer. After a while Mr. Woodcroft came to London, and was appointed Professor of Machinery at University College, London, in 1847; he held that appointment until 1851, when he resigned it. Next year witnessed the passing of the Patent Law Amendment Act, and the then Lord Chancellor, Lord Cranworth, appointed Mr. Woodcroft as superintendent of the specifications, for which post his great experience in patent matters especially qualified him. He retired from office in March, 1876, and during his administration of affairs he carried out the provisions of the Act with efficiency and liberality. The establishment of the library in connection with the Patent Office was mainly due to Mr. Woodcroft, as was also the formation of the Patent Office Museum at South Kensington, to which he was a very liberal contributor, and which was made a free institution solely through his exertions. Among other mechanical improvements effected by Mr. Woodcroft was that of giving to the screw-propeller what is known as an increasing pitch. He was the means of rescuing from oblivion the first marine steam-engine ever made. Mr. Woodcroft was the author of several scientific treatises, and wrote a series of biographical sketches of inventors. He was elected a Fellow of the Royal Society about twenty years since. An excellent notice of Woodcroft appears in the *Engineer* of February 14.

WE regret to announce the death at Berlin on January 15 of Prof. Philipp Spiller, one of the most eminent of German philosophers. Prof. Spiller was born on September 26, 1800, at Einsiedel, near Reichenberg, in Bohemia, and has enriched scientific literature by many valuable publications. His recent

work, "Die Urkraft des Weltalls nach ihrem Wesen und Wirken auf allen Naturgebieten" (Berlin: Stuhr, 1876), is a work of the greatest importance and worthy of the attention of all interested in philosophy.

RUSSIA has lost one more of her mathematicians, Prof. Popoff, of Kazan. His works on the integration of differential equations, on hydrodynamics, on the waves which arise from the motion of a body, on definite integrals, on the calculus of variations, &c., have given to the late professor an eminent place among mathematicians.

MR. COWPER's new "Writing Telegraph" will be brought before the Society of Telegraph Engineers at their next meeting, on the 26th inst., at the Institution of Civil Engineers.

THE Anthropological Institute has just received a legacy of 1,000*l.*, bequeathed by the late Mr. Sydney Ellis of Nottingham.

M. CHEVREUL, who although about ninety years of age, enjoying good robust health, has resigned the administration of the Jardin des Plantes. M. Jules Ferry, the new Minister of Public Instruction, has written him a letter eulogistic of his career, and appointing him Honorary Administrator. M. Jules Ferry has appointed to the post, for a term of five years, M. Freny, the eminent Professor of Chemistry, Director of the Laboratory at the Gardens, the practical School of Chemistry in Paris.

THE people of Penzance have been attempting to celebrate in a mysterious, hole-and-corner way, the centenary of the birth of their great townsman, Sir Humphry Davy, two months after the actual date. What their notion of the "adjacent" world is we do not know, but we doubt if they have any adequate appreciation of the greatness of Davy, whose only merit in their eyes seems to be that he was born in Penzance. Why, if they wanted worthily to honour one of England's greatest scientific worthies, did they not take the Royal and Chemical Societies into their confidence? or how is it that the Royal Society, being aware of the occurrence of this important centenary (they seem to have contributed to the exhibition), have made no efforts to take part in the celebration officially? We leave it to a foreign nation to honour the memory of one of our greatest explorers, and to a petty provincial town to commemorate the birth of one of our greatest chemists. There are surely several screws loose in our scientific organisation.

THE Russian Physical and Chemical Society is now discussing the means of a thorough study of the surface of the moon, especially by means of spectrum analysis.

PROF. FAMINTZIN, of St. Petersburg, has been elected member of the Russian Academy of Sciences in the place of the late Prof. Geleznoff.

A MEETING of the General Committee of the Hanbury Memorial Fund was held in the rooms of the Pharmaceutical Society yesterday. The Sub-Committee reported that the nett proceeds of the one-guinea subscriptions collected from all parts of the world amount, after payment of the cost of the die for the medal, &c., to about 350*l.* The Sub-Committee have to recommend:—1. That the proceeds be invested in consols; the interest to be expended in defraying the cost of a gold medal to be awarded biennially (or otherwise) "for high excellence in the prosecution or promotion of original research in the natural history and chemistry of drugs." 2. That trustees be appointed, who, from time to time, shall request the following gentlemen to award the medal:—The presidents for the time being of the Linnean Society, the Chemical Society, the Pharmaceutical Society, and the British Pharmaceutical Conference, and one pharmaceutical chemist, who shall be nominated by the two presidents last-named.

A ROYAL COMMISSION, consisting of Mr. Warington W. Smyth, F.R.S., Sir George Elliot, M.P., Mr. F. A. Abel, C.B., Mr. Thomas Burt, M.P., Mr. Robert Bellamy Clifton, F.R.S., Prof. Tyndall, F.R.S., Mr. Lindsay Wood, and Mr. William Thomas Lewis, has been appointed for the purpose of inquiring and reporting whether, with respect to the influence of fluctuations of atmospheric pressure upon the issue of fire-damp from coal, to the adoption and efficient application of trustworthy indicators of the presence of fire-damp, and generally to systematic observation of the air in mines, to improved methods of ventilation and illumination, to the employment of explosive agents in the getting of minerals, and to other particulars relating to mines and mining operations, the resources of science furnish any practicable expedients that are not now in use and are calculated to prevent the occurrence of accidents or limit their disastrous consequences.

MR. R. McLACHLAN, F.R.S., writes us that he is informed from two independent sources that Italy has lost its head from dread of the visitation of the *Phylloxera*. The restrictions on the importation of plants of any kind whatever, and from any quarter, are most rigid. A consignment of the newly-discovered gigantic Aroid, from Sumatra, received in Genoa, was subjected to formalities and delays in permission to be delivered, of a nature that seriously compromised the welfare of the tubers. In some places gentlemen must dispense with the ordinary floral decorations in their button-holes. On the French frontier no one is allowed to gather a bouquet of wild flowers on foreign soil and take them across the border, for fear that the much-dreaded pest should exist in it. All scientific reasoning seems to be at an end in the minds of the Italian Government officials. But let us not forget that in 1877 we ourselves were almost in the same condition, owing to the panic spread among us with regard to the Colorado beetle. A knowledge of the rudiments of phytological entomology appears to be so universally deficient that it only requires some agitator to raise a panic in order to bring about the most absurd restrictive enactments. No one can blame the Italians for endeavouring by all means in their power to prevent the introduction of the *Phylloxera* into their vineyards; but they might show a little common-sense discrimination. A restriction on the importation of foreign vines would be sensible enough, and they might go further, and prohibit the discharge of earth-ballast taken in by vessels at ports in districts known to be infected. To stop the introduction of all vegetables and flowers is quite unnecessary.

ON January 4, at 11 P.M., and on the following day at 9 A.M. a strong earthquake was felt at Maikop (Russia); there were five shocks, at intervals of about fifteen minutes.

THE installation of objects sent in for the Anthropological Exhibition at Moscow will begin in the end of March. The interesting collections from Samarcand have already arrived, as well as very interesting objects sent by the East Siberian branch of the Russian Geographical Society. Those of stone implements and of quaternary mammals especially draw the attention of the organising committee, as well as several numismatic collections.

WE notice a communication made by M. Kontkevitch, at the last meeting of the St. Petersburg Mineralogical Society, on the recently explored iron mines in the provinces of Kherson, Ekaterinoslav, and Taurida. At the confluence of the Saksagon and Ingulda rivers there are no less than forty layers of iron from 35 to 200 feet thick and several miles wide, containing 58 to 70 per cent. of iron, and representing a store of two and a half milliard cwt. of iron.

THE Aosta section of the Italian Alpine Club proposes to celebrate this year the centenary of Saussure's travels in the Alps, which opened up quite a new world for science and for

travellers. In 1779 he stayed for the first time in the Valley of Annecy, and the Club proposes to put a commemorative marble plate on the house he inhabited in the village of Dolonne, near Courmayeur. An inscription will probably be placed also on the Grammont Mountain, whence Saussure made his famous observations on Mont Blanc, the first ascent of which he made in 1787.

THE Indian Government *Gazette*, we learn from the *Times of India*, contains papers on the proposed Presidency Botanic Gardens, including a Government minute and the report of the Committee. The Committee's consideration was invited to the question whether Puna or Bombay should be chosen as the place for the principal botanic garden of the Presidency. They decided in favour of Ganesh Khind. They recommend, however, that a small branch garden, consisting of four or five acres, be established in Bombay, and that the Grant College compound be selected for the purpose. The Government highly approved of all the recommendations, which will be carried out whenever financial means may permit. The main scientific garden, which will embrace about forty acres, is to be laid out in the irregular picturesque style, with special reference to landscape effect, and the planting of the ground will be done gradually and without any undue haste. It may be mentioned here that the chief resources of the garden are to be devoted to the bringing together of the indigenous plants of Western India, and until this is satisfactorily accomplished no pains will be taken, except in special cases, to introduce foreign plants. An extraordinary expenditure of Rs. 22,037 will have to be incurred for the purpose of constructing roads and footpaths, excavating a ground, erecting houses and sheds, providing iron piping, &c., for water supply, fitting up rooms for the herbarium, library, and class-room, and for the purchase of botanical books and diagrams. The estimated annual expenditure is, in round numbers, Rs. 12,000.

AT the last meeting of the French Geographical Society a letter was read from the Abbé Desgodins, dated Yerkalo, August 27, 1878, in which he states that, contrary to the common assertion which represents the sheep as the beast of burden most used in Thibet, this function belongs in preference to the yak (*Bos grunniens*); the mule, ass, and horse are also made use of. The sheep, he says, is only employed as a beast of burden at one period, viz., when the parties of Thibetans quit the high plateaux to descend into the valleys at the approach of winter. The Buddhist pilgrims are sometimes to be met with sheep and goats carrying their baggage, but, as the Abbé Desgodins remarks, there is a wide difference between that and representing the sheep as the beast of burden of Thibet.

THE first fascicule of the sixth volume of the "Repertorium für Meteorologie," published by the Russian Central Physical Observatory, contains a memoir, by Prof. Wild, on the temperature of the soil at St. Petersburg and Nukus (Amu-darya); geographical, magnetic, and hypsometric observations, by M. Fritsche, made during his journeys from St. Petersburg to Peking in 1866 and 1877; photochemical measurements of the intensity of daylight in St. Petersburg, by M. Stelling; determinations of the coefficients of anemometers, and magnetic observations on the Amu-darya, by the late M. Dorandt; and researches, by M. Frölich, into the temperature of space.

THE German *St. Petersburg Zeitung* states that the cost of the bronze monument to be erected at Dorpat, in memory of Carl Ernst von Baer, is estimated at 15,000 roubles (about 2,300*l.*), and solicits subscriptions towards this sum.

THE use of a paper dome for an astronomical observatory is a novelty in modern architecture, although, according to Prof. Greene, of Troy, U.S., under whose supervision this has been constructed, it promises to answer a satisfactory purpose. The

dome is a hemisphere with an outside diameter of twenty-nine feet. The framework is of pine properly seasoned, and the covering is of paper, such as is used by Messrs. E. Waters and Sons for the construction of paper boats. The entire weight of the dome and appurtenances, as completed, is about 4,000 pounds. It can be easily revolved by a moderate pressure without the aid of machinery.

THE director of the Postal Telegraph Service of the French Republic has been made a member of the Cabinet and placed on the same footing as the Postmaster-General of the British Government. The present holder of that office is M. Cochery.

THE Royal Institute of Sciences at Venice offers three prizes of 3,000 lire each (about 115*l.*) for three monographs containing (1) an account of the advantages which the application of physics to medical science has brought about; (2) a summary of the most recent investigations made in the field of theoretical hydrodynamics, as well as a statement of the true and essential progress made by this branch of scientific mechanics; (3) a treatise on the commercial and industrial conditions of the city of Venice. Further particulars may be learnt by applying directly to the "Istituto Reale Veneto" at Venice.

THE petrified remains of a *Dinotherium* belonging to the miocene period have just been discovered at Schöneg, near Salmhausen (Swabia), at a depth of 13 metres in a sand-hill.

WE recently referred to the all-embracing scientific agency of Friedländer and Son of Berlin, and this week we have received the first three parts of a new fortnightly publication from that house, likely to be of the greatest service to students in all departments of science. It is entitled *Naturæ Novitates*, and is a fortnightly bibliographical list of current literature of all nations, methodically arranged, in the various departments of science. The publication deserves encouragement; it may be had through Messrs. Williams and Norgate.

THE first part has reached us of an important German undertaking, an *Encyclopædia* of the Natural Sciences, constructed somewhat after the method of the old "*Encyclopædia Metropolitana*." It is to consist of methodical treatises in the various departments of science, followed by an index, which will give it all the advantages of an alphabetical cyclopædia. Each department has a separate editor, and some of the best men in Germany are engaged upon it. The first part is an instalment of a "*Handbuch der Botanik*," edited by Prof. A. Schenk, and contains a treatise on "Fertilisation of Flowers," by our friend Dr. H. Müller, and another on "Insectivorous Plants," by Dr. O. Drude. Trewendt of Breslau is the publisher.

THE Rev. W. A. Leighton has nearly completed the printing of the *third* edition of his "*Lichen-Flora of Great Britain, Ireland, and the Channel Islands*," which, it is expected, will be ready for issue early in March. This new edition is rendered necessary by the recent important discoveries in the west of Ireland, the north of Scotland, and the author's own researches in North and South Wales, whereby the number of our lichens, in the former editions amounting to 1,156, has been raised to 1,706, thus rendering our lichen-flora quite equal in number, rarity, and novelty, to that of any country in Europe.

AMONG recent deaths is that of M. Chauffod, Professor of Zoology at the Paris School of Medicine. M. Chauffod during his whole career opposed M. Claude Bernard's determinism, and advocated the existence of a vital principle and final causes in a number of books largely circulated.

FOR some time past the well-founded fear of trichina has led to a microscopic examination of much of the meat, especially pork, sold in Berlin. Recently the occurrence of this pest there

has been more frequent, and Dr. Luedtge (who claims the invention of the microphone) has consented to give a course of instruction in this branch of microscopy, which began February 17. The course, with practical exercises, will occupy five hours, and is open to ladies and gentlemen at the price of 5*s.* The instruction is to be given in the old Mint, at the Microscopic Aquarium, of which Dr. Luedtge is the director.

DR. AUB, one of the oldest Rabbis in Berlin, recently received from the University of Munich a new doctor's diploma, commemorative of his having received that degree there fifty years ago. It was conferred by Dr. Steinthal in the name of the philosophical faculty.

IT is stated in the *Diario de Manila* that a mine of amianthus, or earth flax, has been discovered in the Island of Luzon. Several specimens of the mineral have been taken to Manila, and have been pronounced by competent judges to be of excellent quality.

IN December last a convention between Spain and China was signed in Spanish, French, and Chinese at Peking relating to the treaty which regulates the emigration of Chinese to the Island of Cuba.

A CORRESPONDENT to the *Times of India*, who lately rode through the Kohat Pass, gives a somewhat curious description of an Afridee village, or, rather, an Afridee family home. The first thing seen is a mud wall oddly slit and pierced, and over its summit rise a number of mud and generally round-shaped projections, on the tops of which may be seen a few children and women. These projections are the roofs of the little rooms or mud inclosures in which the family live during the day; but what immediately strikes the attention on approaching is the loop-holed mud tower overshadowing the mud inclosure. The house proper is reached by passing through a very narrow entrance between the family fort and the mud inclosure. Inside are winding lanes between high mud walls, loop-holed at every turn. The writer found the inhabitants of the village he visited exceedingly hospitable. "The men around him," he says, "had a curiously frank, inquiring, and manly look. Nothing in their demeanour as they stood examining me and watching me eat, could have embarrassed the most sensitive stranger; but as I attentively watched some of their countenances, I could not help observing how often their expression changed, and how often there flitted across their faces a look that made one insensibly shudder." It is worth noting that the women of the Afridees, although Mohammedans, do not cover their faces.

WE understand that Mr. J. R. Gregory, the well-known mineral dealer, has several specimens of that extremely rare mineral, *Percylite*, of which the only known specimen, till quite recently, was the example in the British Museum; he also has, we hear, specimens of another rare mineral, named *Schwarzenbergite*, both from the same locality—a new one for these minerals—in Bolivia.

THE additions to the Zoological Society's Gardens during the past week include a Ring-tailed Lemur (*Lemur catta*) from Madagascar, presented by Mr. Thos. G. Mann; a Cape Hyrax (*Hyrax capensis*) from South Africa, presented by Mr. A. H. Jamrach; two Black-headed Gulls (*Larus ridibundus*), a Common Gull (*Larus canus*), European, presented by Mr. Harry W. Preston; a Wood Owl (*Syrnium aluco*), European, presented by Mrs. George Blagden; a Garnett's Galago (*Galago garnetti*) from South-East Africa, two Yellow-billed Sheathbills (*Chionis alba*) from Antarctic America, purchased; a Yellow-footed Rock Kangaroo (*Petrogale xanthopus*), born in the Gardens.